Amendments to the Claims:

Please amend the claims as shown. Applicants reserve the right to pursue any cancelled claims at a later date.

1-31 (canceled)

32. (currently amended) A device for determining causes of failures in an industrial process comprising a production line and an existing automation system and existing automation control bus, the device comprising;

a detection unit separate from the existing automation system and from the existing automation control bus that directly detects process variables at selected measuring points on the production line and the time and location of a failure without passing through the existing automation system or the existing automation control bus;~~,~~

an evaluation unit that determines correlations between the detected process variables and the time and location of the failure~~;~~ by time-correlating an effect of the failure detected in the process variables with a location on the production line of a cause of the failure based on a production speed, without a need for detecting a second failure; and

an output unit that outputs the process variables correlating with the time and location of the failure.

33-40. (canceled)

41. (currently amended) A method for determining causes of failures in industrial processes, comprising:

selecting a set of industrial process variables for analysis;

measuring the selected variables at selected measuring points on a production line over time until a failure indication is detected in one of the variables;

determining time correlations between the failure indication and any deviations in the other measured variables;

excluding correlations that indicate a consequential effect, and not a cause of the failure indication, and determining the cause of the failure indication without a need for detecting a second failure;

working-out corrective measures to eliminate the cause of the failure indication;

evaluating the corrective measures technically and economically; ~~and~~

selecting and implementing an optimum one of the corrective measures on the production line; and

wherein the production line comprises an automation system and control bus that automate the production line, and wherein the measuring of at least some of the selected variables is performed directly from at least some of the measuring points on the production line without passing through the control bus.

42. (currently amended) The method of claim 41, wherein the production line produces a continuously moving web of material, and further comprising determining a relative time offset for each of the selected measuring points based on a speed of the web passing through the production line, and applying the time offsets to the selected variables to correlate deviations in the variables that are offset in time~~, but which correspond to a given point on the moving web of material~~ to locate a position of a failure on the production line.

43. (canceled)

44. (currently amended) The method of claim ~~43,~~ 41, wherein the measuring step comprises time-stamping samples of the selected variables using a time signal from a global positioning system receiver connected to the measuring and evaluation system.

45. (currently amended) The method of claim ~~43~~ 41, wherein the evaluation system continuously performs elimination routines to isolate variables directly related to the failure to determine the location on the production line of the failure.

46. (previously presented) The method according to claim 41 further comprising determining if a sub-process in the industrial process is the location of the failure to determine the cause of the failure.

47. (previously presented) The method according to claim 46 further comprising determining if the cause of the failure is located in the sub process, and evaluating the sub process to determine a root cause of the failure.

48. (previously presented) The method according to claim 41 further comprising communicating correlation data to a service provider that provides service in the event of a failure in the industrial process to correct the failure.